

CONTACTLESS SHAFT SEAL DEVICE

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Abstract

PURPOSE: To provide a contactless shaft seal device capable of generating a correct dynamic pressure between both seal end surfaces even in the case where a rotary shaft is rotated in either of a normal or an inverse direction.

CONSTITUTION: In a contactless shaft seal device composed in such a way that a seal end surface on the seal case side and a seal end surface on the rotary shaft side rotate relatively to each other contactlessly through a fluid film by high pressure side seal fluid, an even number of groups 10... of dynamic pressure generating grooves are formed at the seal end surface 5a on the rotary shaft side in parallel along its circumference. Each group 10 of the dynamic pressure generating grooves comprises plural L-shaped linear dynamic pressure generating grooves 11... each comprising a guide part 12 diametrically extended from a high pressure side circumferential end edge of the seal end surface 5a, and a dynamic pressure generating part 13 extended diametrically from an end part of the guide part 12 disposed in parallel diametrically without crossing each other. The dynamic pressure generating groove groups 101, 102 adjacent to each other are disposed in symmetric formation in the circumferential direction.

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